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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,865

09/06/2006

Naoto Ikegawa

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EXAMINER

DOLLINGER, MICHAEL M

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,865	Applicant(s) IKEGAWA ET AL.	
	Examiner MIKE DOLLINGER	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8 and 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/14/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-5, 7-9, 12 and 13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 13 of copending Application No. 10/591,706. Although the conflicting claims are not identical, they are not patentably distinct from each other. It is clear that all the elements of the instant claims 1-5 and 7-9 are to be found in the copending claim 13 (as instant claims 1-5 and 7-9 fully encompasses copending claim 13). The difference between the instant claims 1-5 and 7-9 and the copending claim 13 lies in the fact that the copending claim 13 includes more elements and is thus more specific. Thus the invention of copending claim* is in effect a "species" of the "generic" invention of instant claims 1-5

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and 7-9. It has been held that the generic invention is "anticipated" by the "species".

See *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993). Since instant claims 1-5 and 7-9 are anticipated by the copending claim 13, they are not patentably distinct from each other.

2. The only element of the instant claims missing from the copending claims is the requirement that the heat treatment be preformed in an inert-gas atmosphere under a condition that the residual oxygen concentration is less than 1%. However, this is an obvious variant of the copending claim 13, as shown in paragraph [0067] of US 2007/0190346 A1, the PGPub corresponding to the copending application. "[T]hose portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent." *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1, 2, 5, 6, 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuta et al (US 5,891,532 hereinafter referred to as '532) in view of Domergue et al (US 5,728,354).

4. '532 discloses molded films [abstract] of a liquid crystal polyester resin composition comprising (A) 56 through 99% by weight of a liquid crystal polyester [abstract] and (B) 44 through 1% by weight of a thermoplastic resin having an epoxy group [abstract]. The thermoplastic resin having an epoxy group (B) is preferably included in an amount of 2.0 to 30.0% by weight [column 10 lines 41-42] which corresponds to the claimed amount of 0.1 to 17% by weight (0.1 to 20 parts by weight with respect to 100 parts by weight of liquid-crystal polyester). The liquid crystal polyester (A) is preferably formed from 30 through 80% by mole of a repeating unit derived from p-hydroxybenzoic acid, 10 through 35% by mole of a repeating unit derived from an aromatic dicarboxylic acid, and 10 through 35% by mole of a repeating unit derived from an aromatic [column 7 line 63 through column 8 line 22]. Since '532 disclose only 5 alternatives for hydroxycarboxylic acids and 2-hydroxy-6-naphthoic acid is one of them [column 6 lines 11-40], one having ordinary skill in the art would have readily envisaged a polymer with the above molar amounts of repeating units with 2-hydroxy-6-naphthoic acid in place of repeating units derived from p-hydroxybenzoic acid. The thermoplastic resin component (B) is preferably an epoxy group-containing ethylene copolymer comprising (a) 60 through 99% by weight of an ethylene unit and (b) 0.5 through 25% by weight of a glycidyl unsaturated carboxylate unit or an unsaturated glycidyl ether unit [column 8 lines 54-61]. '532 disclose a method of

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molding a film wherein the molding temperature is between 60°C below and 60°C above the flow temperature of the liquid crystal resin composition [column 12 lines 11-14].

Since the polymer and processing temperatures disclosed in Futura et al are the same as those claimed, it is held that the claimed change in dielectric loss tangent is inherent.

5. Domergue a process for producing a nitrogen atmosphere for heat treatment processes [col 4 lines 33-43]. The process produces a nitrogen atmosphere with lower than 20 ppm by volume of oxygen [col 5 lines 49-50] (1% oxygen concentration corresponds to 10,000 ppm). The nitrogen is produced at extremely favorable cost [col 5 lines 41-44] and is better for heat treatments than atmospheres with residual oxygen [col 1 lines 43-54].

6. It would have been obvious to one having ordinary skill in the art the time the invention was made to have prepared a resin molded article obtained by heat treatment of a composition comprising liquid-crystalline polyester, epoxy group containing ethylene copolymer and inorganic filler at the claimed temperature in an inert gas atmosphere under residual oxygen concentration of less than 1% because '532 teaches that it is within the skill of the art to prepare a resin molded article obtained by heat treatment of a composition comprising liquid-crystalline polyester, epoxy group containing ethylene copolymer and inorganic filler at the claimed temperature and Domergue teaches that it is within the skill of the art to use a nitrogen atmosphere with oxygen concentration of 20 ppm. One would have been motivated to use the atmosphere of Domergue in the heat treatment of '532 because Domergue teaches that the atmospheres are suitable for heat treatments and produced at low cost and is better

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than atmospheres containing residual oxygen. Absent any evidence to the contrary, there would have been a reasonable expectation of success in using an inert gas atmosphere in the heat treatment of '532.

7. Since '532 teaches the same composition as claimed, the dielectric loss tangent of the resin composition would inherently be the same as claimed. If there is any difference between the product of '532 and the product of the instant claims the difference would have been minor and obvious. "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. See MPEP 2112.01(I) , *In re Best*, 562 F2d at 1255, 195 USPQ at 433, *Titanium Metals Corp v Banner*, 778 F2d 775, 227 USPQ 773 (Fed Cir 1985), *In re Ludtke*, 441 F2d 660, 169 USPQ 563 (CCPA 1971) and *Northam Warren Corp v D F Newfield Co*, 7 F Supp 773, 22 USPQ 313 (EDNY 1934).

8. Claims 1, 2, 5-8 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuta et al (US 5,759,674 hereinafter referred to as '674) in view of Domergue et al (US 5,728,354).

9. '674 discloses laminates of a film of a liquid crystal polyester resin composition comprising (A) 55 through 99% by weight of a liquid crystal polyester and (B) 45 through 1% by weight of a thermoplastic resin having an epoxy group laminated on a metallic

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foil and is useful for producing a printed wiring board [abstract]. The resin composition may also contain an inorganic filler such as glass fibers [column 8 lines 48-53]. The thermoplastic resin having an epoxy group (B) is preferably included in an amount of 2 to 35% by weight [column 8 lines 22-24] which reads on the claimed amount of 0.1 to 17% by weight (0.1 to 20 parts by weight with respect to 100 parts by weight of liquid-crystal polyester). The liquid crystal polyester (A) is preferably formed from 30 through 80% by mole of a repeating unit derived from p-hydroxybenzoic acid, 10 through 35% by mole of a repeating unit derived from an aromatic dicarboxylic acid, and 10 through 35% by mole of a repeating unit derived from an aromatic [column 6 lines 19-44]. Since '674 discloses only 5 alternatives for hydroxycarboxylic acids and 2-hydroxy-6-naphthoic acid is one of them [column 4 lines 11-40], one having ordinary skill in the art would have readily envisaged a polymer with the above molar amounts of repeating units with 2-hydroxy-6-naphthoic acid in place of repeating units derived from p-hydroxybenzoic acid. The thermoplastic resin component (B) is preferably an epoxy group-containing ethylene copolymer comprising (a) 60 through 99% by weight of an ethylene unit and (b) 0.5 through 25% by weight of a glycidyl unsaturated carboxylate unit or an unsaturated glycidyl ether unit [column 6 lines 56-65].

10. Example 5 includes 87% by weight of a polyester A-1 and 13% by weight of an epoxy containing resin B-3 [Table 3]. The polyester A-1 has a flow temperature of 324°C [column 11 line 12] and the epoxy containing resin B-3 has a composition of 83% ethylene and 12% glycidyl methacrylate [column 12 lines 29-33]. The resin is first molded into a film [column 13 lines 21-30] and subsequently laminated with a copper foil

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at 290°C [column 14 lines 4-9]. The lamination reads on a heat treatment according to the claims.

11. Regarding claims 10 and 11, the claims recite limitations on the process of preparing the liquid crystal polyester and the monomers contained therein. However, what is actually claimed is a method for preparing a resin molded article of liquid crystalline polyester with a lowered dielectric loss tangent. Henceforth any limitations on the preparation of the polymer are product-by-process limitations and irrelevant to patentability in the absence of unexpected results in the form of a structural difference in the resulting composition. Since '674 disclose anticipatory liquid crystal polyesters, discussed above, all the limitations of claims 10 and 11 are met.

12. It would have been obvious to one having ordinary skill in the art the time the invention was made to have prepared a resin molded article obtained by heat treatment of a composition comprising liquid-crystalline polyester, epoxy group containing ethylene copolymer and inorganic filler at the claimed temperature in an inert gas atmosphere under residual oxygen concentration of less than 1% because '674 teaches that it is within the skill of the art to prepare a resin molded article obtained by heat treatment of a composition comprising liquid-crystalline polyester, epoxy group containing ethylene copolymer and inorganic filler at the claimed temperature and Domergue teaches that it is within the skill of the art to use a nitrogen atmosphere with oxygen concentration of 20 ppm. One would have been motivated to use the atmosphere of Domergue in the heat treatment of '674 because Domergue teaches that the atmospheres are suitable for heat treatments and produced at low cost and is better

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than atmospheres containing residual oxygen. Absent any evidence to the contrary, there would have been a reasonable expectation of success in using an inert gas atmosphere in the heat treatment of '674.

13. Since '674 teaches the same composition as claimed, the dielectric loss tangent of the resin composition would inherently be the same as claimed. If there is any difference between the product of '674 and the product of the instant claims the difference would have been minor and obvious. "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. See MPEP 2112.01(I) , *In re Best*, 562 F2d at 1255, 195 USPQ at 433, *Titanium Metals Corp v Banner*, 778 F2d 775, 227 USPQ 773 (Fed Cir 1985), *In re Ludtke*, 441 F2d 660, 169 USPQ 563 (CCPA 1971) and *Northam Warren Corp v D F Newfield Co*, 7 F Supp 773, 22 USPQ 313 (EDNY 1934).

14. Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuta et al (US 5,891,532 hereinafter referred to as '532) in view of Domergue et al (US 5,728,354) and further in view of Furuta et al (US 5,759,674 hereinafter referred to as '674).

15. '532 in view of Domergue do not specifically disclose the molded resin films having a metal film formed in a circuit pattern.

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16. '674 discloses nearly identical polymer compositions to those in '532. Including the amount of liquid crystal polyester and ethylene copolymer [abstract], the repeating units of the liquid crystal polyester [column 6 lines 19-43; column 4 lines 11-40], and the repeating units of the ethylene copolymer [column 6 lines 56-65]. '674 also teach that the liquid crystal polyester films may be laminated with a metallic foil to produce printed-wiring boards [abstract].

17. It is *prima facie* obvious to select a known material based on its art recognized suitability for an intended use. See *Sinclair & Carrol Co. V. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made a resin molded article of a liquid crystal polyester and an epoxy-group containing ethylene copolymer with a metal film formed in a circuit pattern and heat treated below the flow-beginning temperature because '532 in view of Domergue teach a heat treated liquid crystal polyester resin composition film and '674 teach the same composition with a metallic foil laminate for printed wiring boards. Absent any evidence to the contrary, there would have been a reasonable expectation of success of depositing a circuit patterned metal film on the resin composition film of '532 in view of Domergue.

18. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuta et al (US 5,759,674 hereinafter referred to as '674) view of Domergue et al (US 5,728,354) and further in view of Okamoto et al (US 6,838,546).

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19. '674 in view of Domergue, discussed above, discloses a printed circuit board comprising a resin composition layer including an inorganic filler according to the claimed resin composition. However, '674 does not disclose the amount of inorganic filler included in the composition.

20. Okamoto et al disclose an aromatic liquid crystalline polyester composition that is useful as a printed circuit board [column 14 lines 14-19]. Okamoto et al disclose a dielectric material added to the resin composition such as barium titanate and strontium titanate [column 9 lines 25-27] which is included in an amount of 0.2 to 200 parts by weight based on 100 parts by weight of the aromatic liquid crystal polyester and solvent [column 9 lines 29-31].

21. It would have been obvious to one having ordinary skill in the art the time the invention was made to have prepared a printed circuit board molded article by molding a blend of aromatic liquid crystal polyester, epoxy containing ethylene copolymer and an inorganic filler at a specific amount and subjecting it to heat treatment because '674 in view of Domergue teach that it is within the skill of the art to prepare a printed circuit board molded article by molding a blend of aromatic liquid crystal polyester, epoxy containing ethylene copolymer and an inorganic filler and subjecting it to heat treatment and Okamoto et al teach that it is within the skill of the art to prepare a printed circuit board by molding a blend of aromatic liquid crystal polyester and barium titanate or strontium titanate in the amount claimed in the instant claims. One would have been motivated to include the barium titanate or strontium titanate of Okamoto et al because Okamoto et al teach that the titanates are dielectric powder additives and henceforth

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increase the dielectric constant (insulating properties) of the resin composition. Absent any evidence to the contrary, there would have been a reasonable expectation of success combining the dielectric powders of Okamoto et al with the resin compositions of '674 in view of Domergue.

22. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuta et al (US 5,891,532 hereinafter referred to as '532) view of Domergue et al (US 5,728,354) and further in view of Okamoto et al (US 6,838,546).

23. '532 in view of Domergue, discussed above, discloses a printed circuit board comprising a resin composition layer including an inorganic filler according to the claimed resin composition. However, '532 does not disclose the amount of inorganic filler included in the composition.

24. Okamoto et al disclose an aromatic liquid crystalline polyester composition that is useful as a printed circuit board [column 14 lines 14-19]. Okamoto et al disclose a dielectric material added to the resin composition such as barium titanate and strontium titanate [column 9 lines 25-27] which is included in an amount of 0.2 to 200 parts by weight based on 100 parts by weight of the aromatic liquid crystal polyester and solvent [column 9 lines 29-31].

25. It would have been obvious to one having ordinary skill in the art the time the invention was made to have prepared a printed circuit board molded article by molding a blend of aromatic liquid crystal polyester, epoxy containing ethylene copolymer and an

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inorganic filler at a specific amount and subjecting it to heat treatment because '532 in view of Domergue teach that it is within the skill of the art to prepare a printed circuit board molded article by molding a blend of aromatic liquid crystal polyester, epoxy containing ethylene copolymer and an inorganic filler and subjecting it to heat treatment and Okamoto et al teach that it is within the skill of the art to prepare a printed circuit board by molding a blend of aromatic liquid crystal polyester and barium titanate or strontium titanate in the amount claimed in the instant claims. One would have been motivated to include the barium titanate or strontium titanate of Okamoto et al because Okamoto et al teach that the titanates are dielectric powder additives and henceforth increase the dielectric constant (insulating properties) of the resin composition. Absent any evidence to the contrary, there would have been a reasonable expectation of success combining the dielectric powders of Okamoto et al with the resin compositions of '532 in view of Domergue.

Response to Arguments

26. Applicants argue that the present application was filed earlier than application 10/591,706. This is not correct. Application '706 was filed the same day as the present application. However, Applicant is correct that a terminal disclaimer does not need to be filed at this time. If both cases are indicated allowable, a terminal disclaimer must be filed in the later-allowed application.

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27. Applicant's arguments filed 03/09/2010 have been fully considered but they are not persuasive.

28. Applicants argue that the '674 Patent teaches a heat treatment at a temperature 34°C below the flow beginning temperature of the polyester component of the composition of '674 rather than the flow temperature of the entire composition, as required by the instant claims. This argument is not convincing. The claims require heat treatment "performed at a temperature between a lower limit temperature **calculated by subtracting 120°C from the flow-beginning temperature of said liquid- crystalline polyester** and an upper limit temperature calculated by subtracting 20°C from the flow- beginning temperature".

29. Applicant's arguments, see page 7 last paragraph to page 9 first paragraph, filed 03/09/2010, with respect to the rejection(s) of claim(s) 1, 2, 5-8 and 10-13 under Patents '532 and '674 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Domergue et al (US 5,728,354). Applicants argue that neither the '532 Patent nor the '674 Patent teach or suggest performing the heat treatment under inert atmosphere with a residual oxygen content below 1%. Applicants argue that residual oxygen will affect the inherent properties of the resin molded article. Applicants are correct, however Domergue obviates these arguments by teaching the claimed inert atmosphere as discussed in the new rejection.

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30. Applicant's arguments filed 03/09/2010 have been fully considered but they are not persuasive.

31. Applicants argue Okamoto described the amount of dielectric filler as based on 100 parts by weight of the aromatic LCP and solvent. As such, the amount claimed based on 100 parts by weight of the LCP alone may be considerably smaller. This argument is not convincing. Applicants are, of course, correct to point out that the amount of filler may be considerably smaller. However, the amount of filler may actually be considerably larger. The obviousness rejection is based upon the fact that the claimed and disclosed ranges are *overlapping*, the ranges do not need to be identical in order to make the claimed ranges obvious.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MIKE DOLLINGER whose telephone number is (571)270-5464. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/mmd/

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/RANDY GULAKOWSKI/

Supervisory Patent Examiner, Art Unit 1796